

SEQUENCE LISTING

<110> Toque, Bruno  
Bracco, Laurent  
Schweighoffer, Fabien

<120> Genetic Markers of Toxicity, Preparation  
and Uses

<130> 50146/003002

<150> PCT/FR00/02503  
<151> 2000-09-12

<150> FR 99/11405  
<151> 1999-09-13

<150> 09/456,370  
<151> 1999-12-08

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 225  
<212> DNA  
<213> Homo sapiens

<400> 1  
tgggcggagg ggacaggaga caggagcaga gcagcagctg agcagcgtcc ctccccggcc 60  
agctctccac agcccacctc cggccaacag ccttgctgt caaggaaagt acactccgag 120  
cggtcaggct ggggctgctg ccagcgagtc cctcttcgtc tctaaccacg cctattaagc 180  
ggagggtgttc ccagggtgcc cccaacactc caggccctca ctgcg 225

<210> 2  
<211> 186  
<212> DNA  
<213> Homo sapiens

<400> 2  
tggggggagg gaggggaaat tcaattttac ggtccagccg tcttggccgt agcaggggcc 60  
gatccagggt gtctgctctg tttgtggcca tgattacctt gacattgaca ttctgatcaa 120  
atccatccat ctgattcagc agctccagca ggatcctctg aacctccctg tcggccccta 180  
ccacg 186

<210> 3  
<211> 206  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 67  
<223> n = A,T,C or G

<400> 3  
ggatgatgag gagagcgttt cggtcggagg ggatggagga aggcgagttt tagaggcccc 60

tgaaganatg gctgcccttg agaaggatta tgaggagggtt ggtgtggatt ctgttgaagg 120  
agagggtgag gaagaaggag aggaatctaa ttatccattc cttttggccc tgcccctcat 180  
aacgcttctc tcatcatcca atcaact 206

<210> 4  
<211> 237  
<212> DNA  
<213> Homo sapiens

<400> 4  
cgggtggagg tacagggtct ggggaccatg atgcttcttg tagctttgaa tgtcatacca 60  
cacctcccct tggccaggca gatagacctg gacaccatgg gctccagagt ctgatacagg 120  
gtgaaccagc aacgcatccc caagcaagta ctgatcatct atattgaagg tagtcacatc 180  
ctgaggggtac tgcaccacga ggggcctcat gacaggaata cctcccacga aacgctt 237

<210> 5  
<211> 152  
<212> DNA  
<213> Homo sapiens

<400> 5  
agccccagtt tcggcccttg cacctggggg gaactcaggc aatccgattt acgacttttt 60  
tctgggacga gagctcaacc ctcgatatctg tttcttcgac ttcaaataatt tctgtcaact 120  
gcgacccggc ctcategggt gggtcctcat ca 152

<210> 6  
<211> 241  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 20, 49  
<223> n = A,T,C or G

<400> 6  
tcaaagggtg atagtctgan agctctcaac acacatgggc ttgccaggna accatatcaa 60  
caatggcagc atcaccagac ttcaagaatt tagggccatc ttccagcttt ttaccagaac 120  
ggcgatcaat cttttccttc agctcagcaa acttgcatgc aatgtgagcc gtgtggcaat 180  
ccaatacagg ggcatagccg gcgcttattt ggcttgatg gttcaggata atcacctccc 240  
c 241

<210> 7  
<211> 301  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 171, 261  
<223> n = A,T,C or G

<400> 7  
tgcgttgagg gggctgggtg gctgctgggt ccctgggtact gcctgtgtcc cctccttgg 60  
ttccttccgg gattttgcag atgggtcggg gggcttccgc accagctcta ggcgctcctt 120  
ctgcttctgc agctcctcaa tctctcgtg cagcccagat ttctatcttc ngtttgctag 180  
tctccgctg caggaaagtc ggctcagttcc ttctcctggg tctgtcactt ggccgcagcc 240  
agcttggttc gctcgcgcct nctcggcgcc gctcctcttc ctccgggctg atctgttaca 300  
c 301

<210> 8  
 <211> 149  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> 88  
 <223> n = A,T,C or G

<400> 8  
 tgggggcagg gcttgcctta cttcctggag gaagcccgaa gacaggactg tggccgccaa 60  
 caccctcttc aacctgagct gccaaagctc agggaccccc agagcccgtg gacctactct 120  
 ggctccagga tgctgtcccc ctccgtgca 149

<210> 9  
 <211> 271  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> 66  
 <223> n = A,T,C or G

<400> 9  
 atgaggaggg ggcaaaccgt tctcagcggg ggtggaggcc gcttcacccc agggggccag 60  
 caggggaggg tgggtggacc gggggcttct ccatcttaaa gtggaactgg aggaagaact 120  
 gcttgggtctc ccgggttccag tgtgtccaga acttgccctc cgccttgctg atctctctgc 180  
 tcggcacctt gaaggcaatg gtctcgtagg gctcagcggc catgagcagg tactgccagc 240  
 gccggtccgg aggtcgcgtc cctgcgcga c 271

<210> 10  
 <211> 224  
 <212> DNA  
 <213> Homo sapiens

<400> 10  
 gcgggctagg ggactaagtt gtcaaataca gtctcaccta attacaggag cgggtacagcg 60  
 atcctgggact tctagcctct ttccacgggt agagttcaca agacagacta gacacagtgc 120  
 agcaggagaa atgaaacgca ggctctgctt ggccccgggg cctcctcacc cgcacacctg 180  
 ccagccccga gacggccgag gcttacacgt ctgcctctcc acta 224

<210> 11  
 <211> 288  
 <212> DNA  
 <213> Homo sapiens

<400> 11  
 tggactgagg ggctgaagcg gctggccaag tccgacccca tgggtgcagt catcatcgag 60  
 gagtgcggag agcatatcat cgcggggcgc ggcgagctgc acctggagat ctgcctgaag 120  
 gacctggagg aggaccacgc ctgcaccccc atcaagaaat ctgacccggt cgtctcgtac 180  
 cgcgagacgg tcagtgaaga gtcgaacgtg ctctgcctct ccaagtcccc caacaagcac 240  
 aaccggtgtg acatgaaggc gcggcccttc cccgacggcc tcccacag 288

<210> 12  
 <211> 219  
 <212> DNA  
 <213> Homo sapiens

```

<400> 12
ggggctgagg ggacatggac gccatgctct gaagggcttt gtccttggag acctgggtccg 60
gttcatggcc ttgatgccaa cctgggtactc ccgcaccttc ttccgagcta gaacctgtat 120
gtggctggac acctgtcttc tcgtccgagt cttccccgtc ctcagttaa tatagcgtgc 180
aatcaactca tttcggccgt acatcttgcc ctctcact 219

```

```

<210> 13
<211> 111
<212> DNA
<213> Homo sapiens

```

```

<400> 13
ctgtggcagg ctgtctgctc aacaaaacgc tcccacctgg tttgggtatg caaggcactg 60
cgcattccac gccatccacg gccatccacc catccatcca acctccccca t 111

```

```

<210> 14
<211> 297
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> 6, 10
<223> n = A,T,C or G

```

```

<400> 14
gggaangaan gttggctttg ggtgctgtga cggggcggtg atgaggaaac acggtgtatg 60
ctgtgaagag gctgaaggag aacgctgacc tggagtggac tgcagtgaag cagagcttcc 120
tgaccgaggt ggagcaggct gtccagggtt cgtcacccaa acattgtgga ctttgctggc 180
tctgtgtca gaacggcttc tactgectgg tgtacggctt cctgcccac ggctccctgg 240
aggaccgtct ccactgccag acccaggcct gccacctct ctctggcct cccggca 297

```

```

<210> 15
<211> 331
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> 6, 19, 24, 61, 331
<223> n = A,T,C or G

```

```

<400> 15
ggggancagg tcagcatgna cagnatttct accactccaa acgccggttg atcttctcca 60
ngaggaagcc ctaatccgcc cacaggaagc ctgcagtcct ggaagcgga ggggcctcaa 120
aggcccgctc tacatcttct gccttagtct agtttgtgtg tcttaattat tatttgtgtt 180
ttaatttaaa cacctcctca tgtacatacc ctggccgccc cctgccccac tcatttacac 240
caaccacca actatctata aacctagcca tggccatccc cttatgaagc gggcacagtg 300
attataggct ttcgctctaa gaattaaaga n 331

```

```

<210> 16
<211> 273
<212> DNA
<213> Homo sapiens

```

```

<400> 16
cggtaggagg gtgaaggcct cctcagactc cgggggtggca acctctggca ggccccagct 60
cagatcaagg gaagcccaga catctcttct gggaagccca ggatcatcagg gatcttgcag 120
gcaggtcggt gagctgccag gatgaactct agtttttctt tctcttcag caggttggca 180

```

atctcgggtct gcaaagcaga cttctcatct tctagttggg ctgtctccgc ttggagtgaa 240  
taagtcagct cctctccgg ttgcggaatt tgg 273

<210> 17  
<211> 145  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 8, 9, 18, 24, 32, 33, 85  
<223> n = A,T,C or G

<400> 17  
tcgcgaanng ggctgaangc tagncaaacc gnnccatcat gtcgcacaaa caaatttact 60  
attcggacaa atacgacgac gaggnagttt gagtatcgac atgtcatgct gcccaaggac 120  
atagccaagc tggtcctac ctccc 145

<210> 18  
<211> 334  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 64  
<223> n = A,T,C or G

<400> 18  
tttgtgcagg ggggctgtcc ccttggcccc agactcctct tcatcatcat cctgcctggg 60  
ccgnatggac tggcttcccc tctcttcage cgtcattga gtgccttcag ggccagttgc 120  
cttctccgct cggcgtcttg agggctctgtg cctggcaggc tgatggtgat ggaggatggg 180  
gcacccacat cgtagcgctt caccgtcttc tggcatatct ttaccttcac caggaggctg 240  
tgcaccaagt tcgccagcaa acccaccaca ggctgcagga tctcagggaa gaaagtggcg 300  
aaagcaaagt ggtcagccat gtcccccttc gcac 334

<210> 19  
<211> 245  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 43  
<223> n = A,T,C or G

<400> 19  
agcgttttga gttgaggggc cgatcctgac aaagccggca agnaaccag tcatggagcc 60  
tgaacgagaa agaggcgtgg gcctcaagta cgagctcatc tccgagaccg ggggcagcca 120  
cgacaagcgc ttcgtcacgg aggtcgaagt ggatggacag aagttccaag gtgctgggtc 180  
caacaaaaag gtggcgaagg cctacgctgc tcttgetgcc ctagaaaagc ttttccttcc 240  
catga 245

<210> 20  
<211> 178  
<212> DNA  
<213> Homo sapiens

<220>

<221> misc\_feature  
<222> 15  
<223> n = A,T,C or G

<400> 20  
gggggtaagg cgganatgag atggggggccg ctgtggcctc aggcacagcc aaaggagcaa 60  
gaagacggcg gcagaacaac tcagctaaac agtcttggct gctgaggctg tttgagtcaa 120  
aactgtttga catctccatg gccatttcat acctgtataa ctccaaggag cctgattt 178

<210> 21  
<211> 163  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 21, 22  
<223> n = A,T,C or G

<400> 21  
ggttgccaggc ccacacccaa nncgtctaca actaccacct cagtccccgc gccttcctgc 60  
actaccctgg gctgggtggtg cccagcccc agcgccctga caagtgccg ctgccgcccc 120  
tggcaccgga gacccaccg gtccctctct cggcctgccg ggc 163

<210> 22  
<211> 296  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 8, 11, 16, 25, 283  
<223> n = A,T,C or G

<400> 22  
ggattcgngg ncgaantgcc gtggnacatt actggcactg gcacctgtgc tgggactgcc 60  
aattccccgc agctcacggc actcagctta cttgagagtt tgaccataga ctccccgggtg 120  
gcatcagggtg actcaagcag tgggtggggac ttcactgctt gctggctgtc tgagcgtctc 180  
agagtacccc ccaccgccg gcgcagcctc ttcttgatac tgccgccaga tttcttacca 240  
tcagttcatc aaccatggac tgcaagcaga tgctaataat ganagcctcc ccacaa 296

<210> 23  
<211> 310  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 3, 33, 34  
<223> n = A,T,C or G

<400> 23  
aangcgatct cctgctgatg gtggtagagg ccnnaaaatt gctcatttgg gccttcagtg 60  
ggctgctccac ctccacatcg atgtcgtaac aggcgtgtctt cttctggctg ttagggtcga 120  
cactaatgac atggttgatg acaatggggg ctggatgctg cagcaaccct gccagcttca 180  
tgggaatctc ggagaaacgg agtcggccca actgaagatc tggcggaagt aacggttgca 240  
gttgatgtac tcccgtctct gcccatcctg cagctgggtg tgcttgatgt aaagccacag 300  
ggcctgccac 310

<210> 24  
<211> 232  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 230  
<223> n = A,T,C or G

<400> 24  
gtgaggtagg cagctgagtt gatgcagcag gtcaacgtat tgaaacttac tgttgaagac 60  
ttggagaaaag agagggattt ctcttcggaa agctcggaac attgaattga tttgccagga 120  
gacgagggggg aaaacgaccc tgtattgcag aggattgtag acattctgta tgcccagatg 180  
aaggctttgt gatcctgatg aagggggccc acaggaggag caagaagagn at 232

<210> 25  
<211> 231  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 18, 203, 220  
<223> n = A,T,C or G

<400> 25  
tccggcgagg ctttttgngc tgctaaaatg ccggattcct cggtgccgat cagcggaaga 60  
ccaaagagga tgagaaggac gacaagccca tccgagctct ggatgagggg gatattgcct 120  
tgttgaaaac ttatggtcag agcacttatt ctaggcagat caagcaagtt gacgatgaca 180  
ttcagcaact tctcaagaaa atnatgagct cactggtatn aagaatctga c 231

<210> 26  
<211> 301  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 26  
<223> n = A,T,C or G

<400> 26  
aatgaggggtg gtgaagccgg gcagcntgct tggcgaactc cacagtctta atgatgcact 60  
tgggtggagag ttcactgaac ttgtcccaga ggtcaatgtc cagagagaca cgttgttctg 120  
agctgttggt cgtagtgtat ttgcccagct ggcagagggc agggaagggt tcttggtgcg 180  
ctttgcgcac cttctcaatg agctccccc cctccggcgt cagcgtgtag ctctcagagc 240  
actcgggctt gggcacctcc ttctttctct tgtttcggtc gtttctacag actccctggc 300  
c 301

<210> 27  
<211> 279  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 4, 6, 18, 198  
<223> n = A,T,C or G

<400> 27  
gggnanggggt acccacgnat gatgtgggga gtttcctctg cagtttctgc acctcacacg 60  
cacgttggtg cccccgatac aggcgtgaca ggaggcgccc atgtagtctc ctagtgccat 120  
gaccaccttc tgtatctgct gagccaattc tcgagtggtg gctaggacca aggcctgggt 180  
ggcttttaga tctaattnat ctgctgcaga atcgatatgg caaatgtggc cgttttccca 240  
gtcccagatt gggcttgagc aatcacatca taacccttc 279

<210> 28  
<211> 295  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 6, 7, 11, 17, 18, 31, 32, 41, 74  
<223> n = A,T,C or G

<400> 28  
atgggnnggg naccagnntg tctgccttcg nntcataagg nccgactgtt tgatgacctc 60  
gggtgccatc cagnaattggg gtgcccacga aggtgttcct tttgatctgg gtgtctgtca 120  
gctggccagc cagccaaaag tccgccagct tcacctcgcc atgctcagac agcaggacgt 180  
tggccgcttt aatgtctctg tggattttct tctccgaatg gagataatcg agtcctttca 240  
gtatttctct taatataagt aagcgatctg ggtttcatct aatgggccag gttct 295

<210> 29  
<211> 348  
<212> DNA  
<213> Homo sapiens

<400> 29  
gcttgtaagg kgggacaggg gcmcccagg ctgcagkggg agcccatggg gacactatac 60  
argggcacia gttttccaac tatraactcc taacctaatc gacttyttcc atgcraracs 120  
catcctcatc gccctcgaga ggggggatct matcaggaac tgcagcattg ggttcctctg 180  
ctgccacttc atyttcatca atacctaaac ctagcttgat catgcaataa atgcgggttg 240  
agtgggtctg gggatcctca ggggaaaagc cagaagatag cagggcggtt tcaaacagca 300  
gcaccaccag gtccttaact gccttatcat tcttgctggc ctaacctt 348

<210> 30  
<211> 450  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 385, 408, 411, 422, 434  
<223> n = A,T,C or G

<400> 30  
gcgggggagg tgtcttcaat aggcccaaaa tcaccgtctc caggtggcca gataaggctg 60  
acttcagtgc tgatgcaagt tccttttttg tccttctctg gtaggcgaag gcaatatcct 120  
gtctctgtgc attgctgcgg ttgggtcaaaa tgttgacaat ggtgacctca tccacacctt 180  
tgggtcttgat ggctgtttca atgttcaaaag catcccgtc agcatcaaag ttagtatagg 240  
ctttgacaga cccatatgca cttggggggt tagagtgat accctccaag ctgagcttgc 300  
acaggatttc gtgaacagta gacattttga aggaagcttc ctgaggccaa tgtgttcaac 360  
caagcggaaa ctctccgggt agagngaaac ccaagttgct atctcaanaa ncctgcaaaa 420  
anacgctttt aatnctagtg cgccgcctga 450

<210> 31  
<211> 492



<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 188, 436, 468, 477, 478  
<223> n = A,T,C or G

<400> 31  
ccagagggtg aggggaatat ggtagtagg acagaaggta acattgatga ctgcgtcatt 60  
ggtaggaatg cctccgtga agggcccgag ggcgaaggta ccgaaagcac agtaatcact 120  
ggtagtgata ttgtcatgaa ccatcacctg caggaaacaa gtttcacaaa agaagcctac 180  
aagaagtnca tcaaagatta catgaaatca atcaaaggga aacttgaaga acagagacca 240  
gaaagagtaa aaccttttat gacaggggct gcagaacaaa tcaagcacat ccttgctaatt 300  
ttcaaaaact accagttctt tattgggtgaa aacatgaatc cagatggcat ggtagctcta 360  
ttggactacc gtgaggatgg tgtgccccat aatgatttct ttaagggtgg taaaaatgga 420  
aaatgtacca atgtgnaata ttttgactat cccttgcccg atacctinta atctagnngg 480  
ccctgagtc ct 492

<210> 32  
<211> 251  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> 187, 211, 233  
<223> n = A,T,C or G

<400> 32  
cagcattcag ttcttcaaatt cgggcacggg taatggaggt atagaagtcg attccttcat 60  
agagagaatc gatctcaata ctggcctggg tgctggaaga gaggtacgc ttagcacgtt 120  
cacaagcagt acggaggcgt cttacagctc tcttggtctc actgatgtcc ttcttatgct 180  
tgcgctnaac tcagcaataa aatgggttgac nattcggttg taaaatcttc tcncccaagt 240  
gggtgtctcc a 251

<210> 33  
<211> 212  
<212> DNA  
<213> Homo sapiens

<400> 33  
gaaagcgtta ttgtggccgg tcgatctcca agactggact gtacgtctca gctctgtgag 60  
cgtcgtctca gcagctccaa cctcagcaga ctgtgtggtg accactgtgg tgctctcctc 120  
aatctgctga gaccagtact tgtctagctc ctctcggttc ttccgagcca gctcgtcata 180  
ttgggcccgg atgtctgcca tgatcttggc ga 212

<210> 34  
<211> 186  
<212> DNA  
<213> Homo sapiens

<400> 34  
actgatccct gccctcaaga ctcatcgaca agtctagtga gaaatggcgt ggactacgtg 60  
atcatgggca tgccacacag agggcggtctg aacgtgcttg caaatgtcat caggaggag 120  
ctggaacaga tcttctgtca attcgattca aagctggagg cagctgatga gggctccgga 180  
gatgtg 186

<210> 35

<211> 120  
<212> DNA  
<213> Homo sapiens

<400> 35  
ggatgatgag gagaacgtta tggggaggag ggggtgaggt cttggtgagt gtttttagtgg 60  
ggttagcgat ggaggttaga ttggtgctgt ggggtgaaaga gtatgatggg gtggtggttg 120

<210> 36  
<211> 314  
<212> DNA  
<213> Homo sapiens

<400> 36  
ggggtgtagg gggacttcaa actctactcc cactaatagc tttttgatga cttctagcaa 60  
gcctcgctaa cctcgcccta cccccacta ttaacctact gggagaactc tctgtgctag 120  
taaccacgtt ctcctgatca aatatcactc tctacttac aggactcaac atactagtca 180  
cagccctata ctccctctac atatttacca caacacaatg gggctcactc acccaccaca 240  
ttaacaacat aaaaccctca ttcacacgag aaaacaccct catgttcata cacctatccc 300  
ccattctcct ccta 314

<210> 37  
<211> 258  
<212> DNA  
<213> Homo sapiens

<400> 37  
ggatgatgag gagagcgat ggggcggagg tttaggtatt gtagcgcgtg gctcgtaggc 60  
ccaccgagga acagggcgga gtagcgccg agcttggatg agcggagaga cctgcaccgg 120  
tggcaccatc ttgtcctgac ctccccggat acgctttcct catcatcaat cactagtgcg 180  
gcgctgcagg tcgaccatat gggagagctc ccaacgcgtt ggatgcatag cttgagtatc 240  
tatagtgtca cctaaata 258